

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1.-13. (Canceled).

14. (Currently Amended) A burner for a vapour deposition process, comprising:

a central orifice for ejecting a glass precursor material, said central orifice being defined by ~~at least a first surface~~ an exit port comprising a circular central region and a plurality of radial regions extending from the central region, said ~~central orifice exit port~~ exit port having a concave shaped cross-section in a radial plane; and

an annular orifice for ejecting an innershield gas, said annular orifice defined by at least a second and a third surface, said annular orifice surrounding said central orifice.

15. (Previously Presented) The burner according to claim 14, wherein said central orifice has a symmetry about an axial plane.

16. (Previously Presented) The burner according to claim 14, further comprising a ring of nozzles, each nozzle in the ring of nozzles being defined by a respective surface, the ring of nozzles surrounding said central orifice for ejecting a flame reactant.

17. (Previously Presented) The burner according to claim 16, wherein the annular orifice is located between said central orifice and said ring of nozzles.

18. (Previously Presented) The burner according to claim 17, wherein said central orifice has first angular sectors of minimum radial dimensions and second angular sectors of maximum radial dimensions.

19. (Previously Presented) The burner according to claim 18, wherein said ring of nozzles comprises a first set of nozzles in the same angular positions of said second angular sectors and a second set of nozzles in the same angular positions of said first angular sectors.

20. (Previously Presented) The burner according to claim 19, further comprising a first set of ducts terminating in said first set of nozzles and a second set of ducts terminating in said second set of nozzles, the ducts of the first set being inclined at a first angle with respect to a central axis of said burner and the ducts of the second set being inclined at a second angle with respect to said central axis, said second angle being greater than said first angle.

21. (Previously Presented) The burner according to claim 14, having a central duct terminating in said central orifice for the passage of said glass precursor material, and comprising a central member positioned inside the central duct for forcing the glass precursor material toward an external boundary of said central orifice.

22. (Previously Presented) The burner according to claim 21, wherein the central member has at least an enlarged portion that substantially fits with external walls of said central duct.

23. (Withdrawn) A chemical vapor deposition process, comprising ejecting a stream of glass precursor material having a concave cross section.

24. (Withdrawn) The process according to claim 23, further comprising producing a between said stream of glass precursormaterial and said flame.

25. (Withdrawn) The process according to claim 23, wherein said stream of glass precursor material has a central axis, wherein said cross-section has first angular zones of maximum radial extension alternated to second angular zones of minimum radial extension, and wherein producing a flame comprises ejecting combustible gases along a first direction with respect to said axis at first angular positions corresponding to said first angular zones and along a second direction with respect to said axis at second angular positions corresponding to said second angular zones, said second angle being greater than said first angle.

26. (Withdrawn) The process according to claim 23, wherein said stream of glass precursor material is ejected with a velocity that is maximum in a region around a central axis of said stream.